Figure 4 Codon Usage Analysis

per 542 total codons

	YG#81-6G	ver1 GR	ver1 RD	ver5 GR	ver5 RD	HUM
CGA	7	0	0	2	0	3
CGC	1	13	13	11	12	6
CGG	0	0	0	0	0	6
CGT	5	13	13	13	14	3
AGA	6	0	0	0	0	5
Arg AGG	7	0	0	0	0	6
CTA	5	0	0	0	0	3
CTC	4	0	1	12	11	11
CTG	4	28	27	19	18	23
CTT	12	0	0	1	1	6
TTA	17	0	0	0	0	3
Leu TTG	13	27	27	23	25	6
TCA	6	0	0	1	2	5
TCC	2	0	0	4	2	10
TCG	7	0	0	0	0	2
TCT	7	16	15	11	12	7
AGC	2	15	15	14	12	10
Ser AGT	7	0	0	1	2	5
ACA	10	0	0	0	1	8
ACC	2	11	11	8	11	12
ACG	2	0	0	0	0	4
Thr ACT	8	11	11	14	10	7
CCA	9	14	14	9	12	8
CCC	8	0	0	2	1	11
CCG	2	0	0	0	0	4
Pro CCT	9	14	14	17	15	8
GCA	14	0	0	5	4	8
GCC	4	19	18	14	12	16
GCG	5	0	0	0	0	4
Ala GCT	15	18	19	18	21	11
GGA	18	0	0	1	3	9
GGC	3	20	19	21	21	14
GGG	2	0	0	1	1	9
Gly GGT	16	19	20	16	14	6
GTA	13	0	0	1	1	3
GTC	4	25	24	21	26	9
GTG	12	25	25	25	17	17
Val GTT	20	0	0	3	5	6
AAA	23	17	18	19	13	12
Lys AAG	12	18	17	16	22	19
AAC	6	11	11	13	12	12
Asn AAT	16	11	10	9	9	9
CAA	8	7	8	11	7	6
Gln CAG	6	7	7	3	8	18
CAC	6	7	6	7	4	8
His CAT	7	6	7	6	9	5
GAA	26	19	19	19	18	15
Glu GAG	12	19	19	19	20	22
GAC	6	13	13	14	12	16
Asp GAT	20	13	13	12	14	12
TAC	8	10	10	12	13	10
Tyr TAT	11	9	10	7	7	7
TGC	3	6	5	3	4	8
Cys TGT	8	5	6	8	7	5
TTC	11	13	12	15	12	12
Phe TTT	14	12	13	10	13	9
ATA	12	0	0	0	0	3
ATC	7	19	19	23	20	13
Ile ATT	19	19	20	15	19	8
Met ATG	11	11	11	11	11	12
Trp TGG	2	2	2	2	2	7

relative codon usage for each aa (*100)

	YG#81-6G	ver5 GR	ver5 RD	HUM
CGA	27	8	0	10
CGC	4	42	46	21
CGG	0	0	0	19
CGT	19	50	54	9
AGA	23	0	0	19
Arg AGG	27	0	0	21
CTA	9	0	0	6
CTC	7	22	20	21
CTG	7	35	33	44
CTT	22	2	2	11
TTA	31	0	0	6
Leu TTG	24	42	45	11
TCA	19	3	7	13
TCC	6	13	7	25
TCG	23	0	0	6
TCT	23	35	40	18
AGC	6	45	40	26
Ser AGT	23	3	7	13
ACA	45	0	5	25
ACC	9	36	50	40
ACG	9	0	0	12
Thr ACT	36	64	45	22
CCA	32	32	43	26
CCC	29	7	4	35
CCG	7	0	0	12
Pro CCT	32	61	54	27
GCA	37	13	11	19
GCC	11	37	32	40
GCG	13	0	0	10
Ala GCT	39	47	55	27
GGA	46	3	8	24
GGC	8	54	54	36
GGG	5	3	3	25
Gly GGT	41	41	36	16
GTA	27	2	2	9
GTC	8	42	53	25
GTG	24	50	35	48
Val GTT	41	6	10	16
AAA	66	54	37	39
Lys AAG	34	46	63	61
AAC	27	59	57	58
Asn AAT	73	41	43	43
CAA	57	79	47	25
Gln CAG	43	21	53	76
CAC	46	54	31	59
His CAT	54	46	69	39
GAA	68	50	47	39
Glu GAG	32	50	53	61
GAC	23	54	46	56
Asp GAT	77	46	54	42
TAC	42	63	65	60
Tyr TAT	58	37	35	40
TGC	27	27	36	60
Cys TGT	73	73	64	41
TTC	44	60	48	58
Phe TTT	56	40	52	41
ATA	32	0	0	13
ATC	18	61	51	55
Ile ATT	50	39	49	34
Met ATG	100	100	100	100
Trp TGG	100	100	100	100

Figure 13B - RL Co-Reporter Vector Series

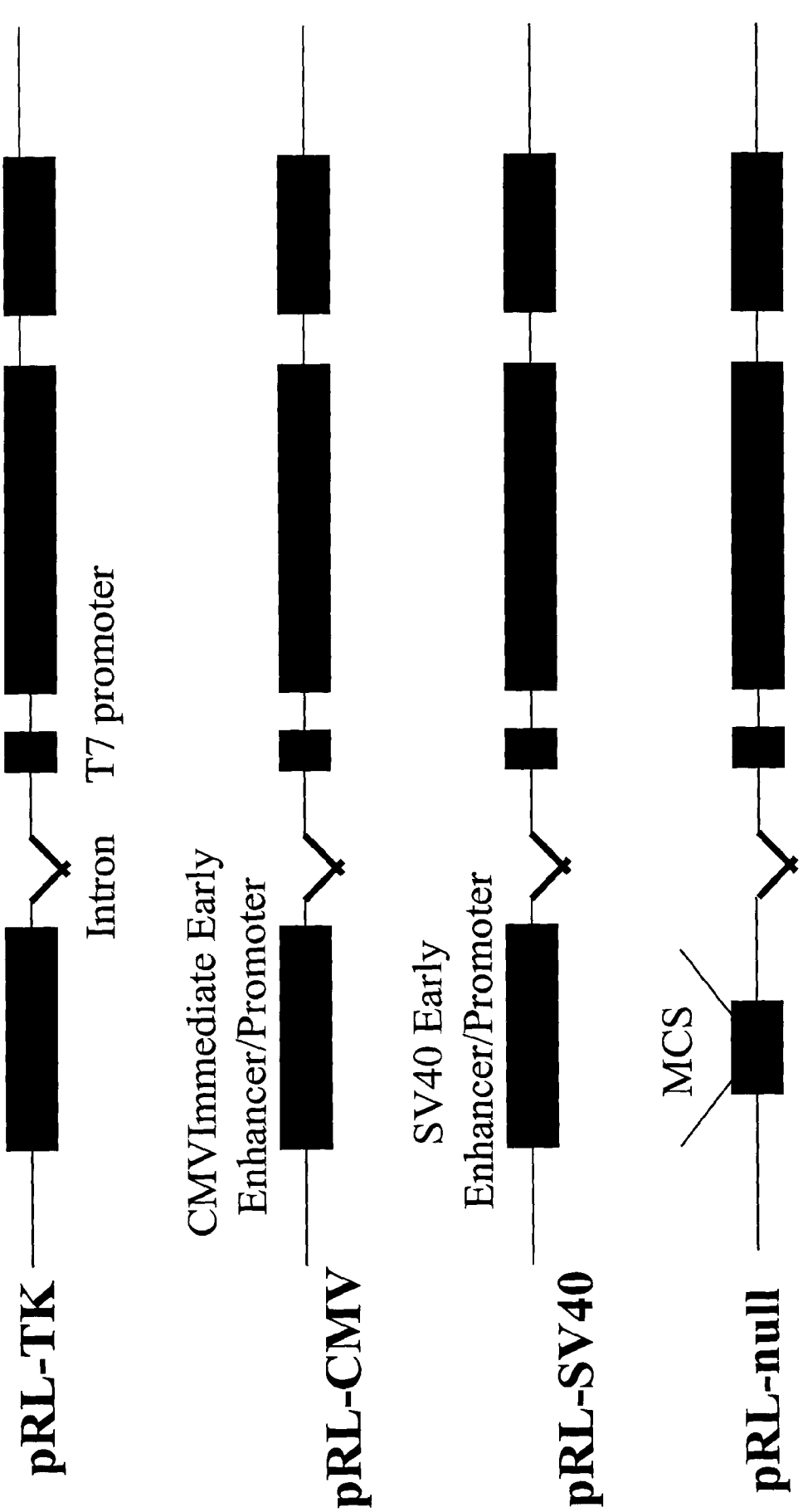
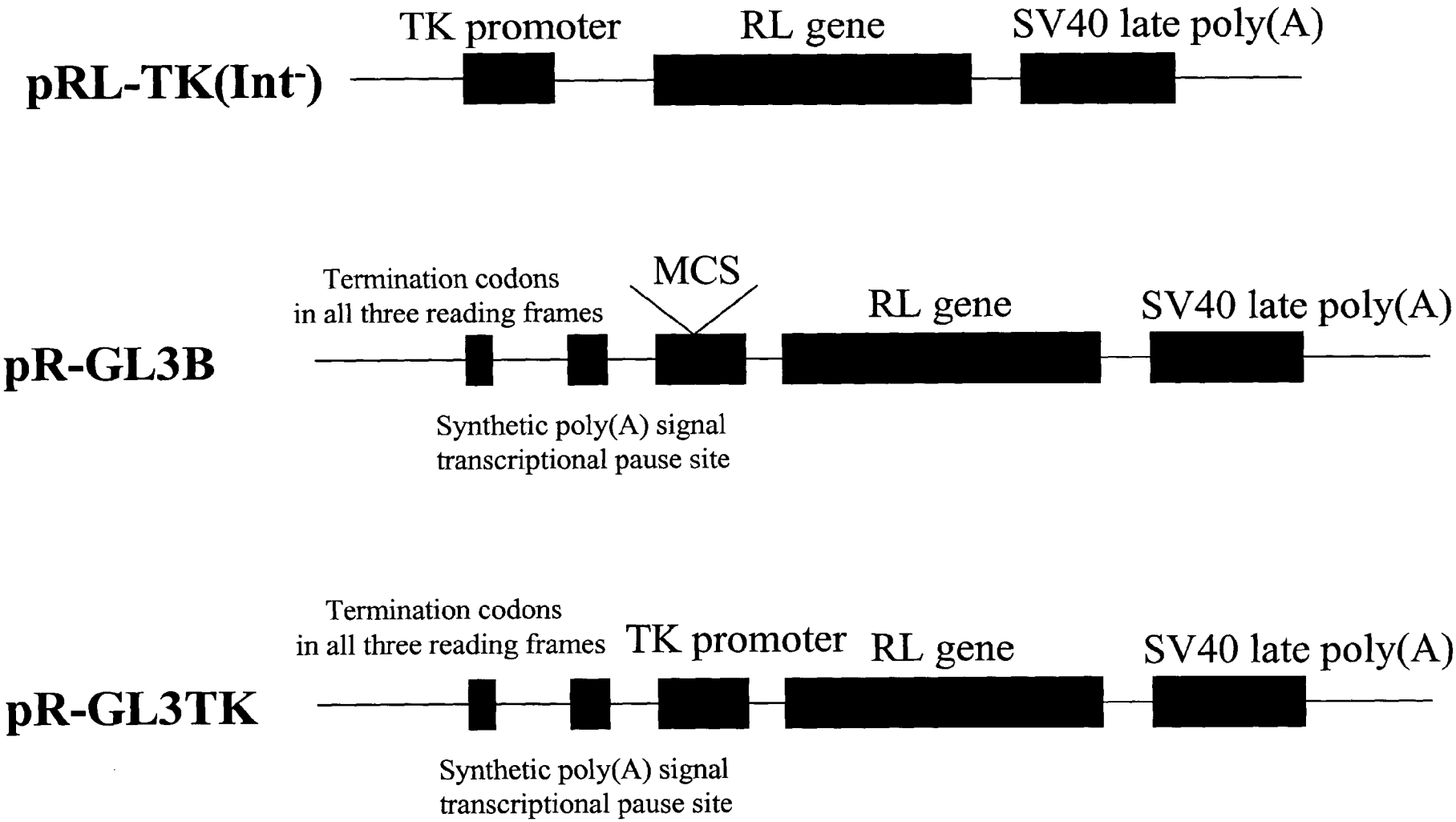


Figure 13B - Continued



Replacement Sheet